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**FINAL SHIP OPERATING SCHEDULE FOR 1998**  
**R/V BLUE HERON**

<b>Cruise Dates</b>	<b>Map Index/ Area/ Purpose</b>	<b>P.I. /Institution/ Proposal</b>	<b>Ports</b>	<b>Days/Agency/ Status/Clearance</b>
06 May 13 May	GL4/ Superior/ Moorings	E. Ralph/ UMN/ KITES-OCE 9712871	Duluth Duluth	6.5/NSF/F/None
20 May 22 May	GL4/ Superior/ Bass Deployment	E. Ralph/ UMN/ KITES-OCE 9712871	Duluth Duluth	3/NSF/F/None
29 May 29 May	GL4/ Superior/ ADCP	E. Ralph/ UMN/ MRI 9724432	Duluth Duluth	0.5/NSF/F/None
02 Jun 13 Jun	GL4/ Superior/ ROV- NURP	N. Urban/ MTU/ NAGL-98-03A	Duluth Duluth	11/NOAA/F/None
16 Jun 16 Jun	GL4/ Superior/ Educational	T. Johnson /UMN/ University	Duluth Duluth	0.5/State/F/None
18 Jun 18 Jun	GL4/ Superior/ POS-MV	N. Wattrus/ UMN/ MRI 9724432	Duluth Duluth	0.5/UNSF/F/None
24 Jun 24 Jul	GL4/ Superior/ Physical Limn.	E. Ralph/ UMN/ Sea Grant	Duluth Duluth	0.5/NOAA/F/None
06 Jul 11 Jul	GL4/ Superior/ Physical Limn.	E. Ralph/ UMN/ KITES OCE 9712871	Duluth Duluth	6/NSF/F/None
20 Jul 20 Jul	GL4/ Superior/ Biological Limn.	B. Sterner/ UMN/ University	Duluth Duluth	0.5/State/F/None
22 Jul 25 Jul	GL4/ Superior/ Geologic Limn.	N. Wattrus/ UMN/ Sea Grant	Duluth Duluth	4/NOAA/F/None
30 Jul 30 Jul	GL4/ Superior/ Multibeam	N. Wattrus/ UMN/ MRI 9724432	Duluth Duluth	0.5/NSF/F/None

31 Jul	GL4/ Superior/	K. Kelts/ UMN/	Duluth	0.5/State/F/None
31 Jul	Educational	University	Duluth	
02 Aug	GL4/ Superior/	N. Wattrus/ UMN/	Duluth	5/NOAA/F/None
06 Aug	Geologic Limn.	Sea Grant	Duluth	
10 Aug	GL4/ Superior/	B. Megard/ UMN/	Duluth	0.5/ State/F/None
10 Aug	Biological Limn.	University	Duluth	
13 Aug	GL4/ Superior/	N. Urban/ MTU/	Duluth	8/NOAA/F/None
20 Aug	ROV- NURP	NAGL-98-03A	Duluth	
25 Aug	GL4/ Superior/	E. Ralph/ UMN/	Duluth	9/NSF/F/None
02 Sep	Physical Limn.	KITES OCE 9712871	Duluth	
09 Sep	GL4/ Superior/	B. Sterner/ UMN/	Duluth	0.5/State/F/None
09 Sep	Biological Limn	University	Duluth	
10 Sep	GL4/ Superior/	R. Hicks/ UMN/	Duluth	0.5/State/F/None
10 Sep	Biological Limn.	University	Duluth	
11 Sep	GL4/ Superior/	T. Johnson/ UMN/	Duluth	0.5/State/F/None
11 Sep	Educational	University	Duluth	
17 Sep	GL4/ Superior/	E. Ralph/ UMN/	Duluth	2.5/State &
19 Sep	Physical Limn.	University & Sea Grant	Duluth	NOAA/F/None
10 Oct	GL4/ Superior/	E. Brown/ UMN/	Duluth	0.5/State/F/None
10 Oct	Educational	University	Duluth	
13 Oct	GL4/ Superior/	R. Hicks/ UMN/	Duluth	0.5/State/F/None
13 Oct	Biological Limn.	University	Duluth	
17 Oct	GL4/ Superior/	N. Wattrus/ UMN/	Duluth	0.5/State/F/None
17 Oct	Educational	University	Duluth	
27 Oct	GL4/ Superior/	N. Wattrus/ UMN/	Duluth	0.5/NSF/F/None
27 Oct	Multibeam	MRI 9724432	Duluth	
29 Oct	GL4/ Superior/	N. Wattrus/ UMN/	Duluth	0.5/NSF/F/None
29 Oct	Multibeam	MRI 9724432	Duluth	
12 Nov	GL4/ Superior/	E. Ralph/ UMN/	Duluth	0.5/NSF/F/None
12 Nov	ADCP	MRI 9724432	Duluth	

08 Dec	GL4/ Superior/	E. Ralph/ UMN/	Duluth	0.5/NSF/F/None
08 Dec	ADCP	MRI 9724432	Duluth	

### SUMMARY

Agency	Funded	Proposed	Total
NSF	28		28
NOAA	30		30
State	6		6
<b>Total</b>	<b>64</b>		<b>64</b>